UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/703,038	10/31/2000	Tony M. Brewer	59182-P004US-10020641	8896

29053	7590	11/03/2005	EXAMINER

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ART UNIT	PAPER NUMBER
2661	

DATE MAILED: 11/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

	Application No.	Applicant(s)
Office Action Summary	09/703,038	BREWER ET AL.
	Examiner	Art Unit	
	Phirin Sam	2661	

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>30 June 2005</u>.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>63-125</u> is/are pending in the application.

     4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) <u>63-87 and 112-125</u> is/are allowed.

6)☒ Claim(s) <u>88,94-96,101-106,108,109 and 111</u> is/are rejected.

7)☒ Claim(s) <u>89-93,97-100,107 and 110</u> is/are objected to.

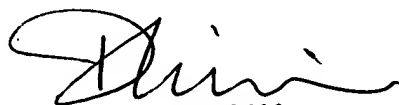8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on <u>31 October 2000</u> is/are: a)☒ accepted or b)☐ objected to by the Examiner.

     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

     a)☐ All   b)☐ Some *   c)☐ None of:

         1.☐ Certified copies of the priority documents have been received.

         2.☐ Certified copies of the priority documents have been received in Application No. _____.

         3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

     * See the attached detailed Office action for a list of the certified copies not received.

PHIRIN SAM
PRIMARY EXAMINER

Attachment(s)	
1) ☒ Notice of References Cited (PTO-892)	4) ☐ Interview Summary (PTO-413)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date. _____.
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)	5) ☐ Notice of Informal Patent Application (PTO-152)
Paper No(s)/Mail Date _____.	6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

2.   This application currently names joint inventors. In considering patentability of the

claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various

claims was commonly owned at the time any inventions covered therein were made absent any

evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out

the inventor and invention dates of each claim that was not commonly owned at the time a later

invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c)

and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3.   Claims 88, 94-96, 101-106, 108, 109, and 111 are rejected under 35 U.S.C. 103(a) as

being unpatentable over US Patent 6,335,992 (hereinafter referred as "Bala") in view of US

Patent 5,583,859 (hereinafter referred as "Feldmeier").

Bala discloses the invention (**claims 88 and 101**) as claimed including an Internet

Protocol (IP) packet router system, the system comprising:

(a)   an IP packet router, including;

(a1)   an optical switch fabric through which the chunk passes (see Fig. 5C, element 120, col.

11, lines 19-22).

(a2)   a first electrical switch stage at an input side (see Fig. 5C, element 110, col. 11, lines 19-

22, 29-32) of the optical switch fabric (see Fig. 5C, element 120, col. 11, lines 19-22, 35-37) and

a second electrical switch stage (see Fig. 5C, element 130, col. 11, lines 19-22, 37-38, 61-67) at

an output side of the switch fabric (see Fig. 5C, element 120, col. 11, lines 19-22, 35-37).

Bala discloses the incoming the electrical signals (chunk) applied to the first stage

switches 110. On the other hand, Bala does not disclose chunk having a payload comprising a

plurality of data packets and a framing symbol. However, Feldmeier discloses chunk having a

payload comprising a plurality of data packets and a framing symbol (see Figs. 5-8, col. 5, lines

31-67, col. 6, lines 1-41). At the time of the invention, it would have been obvious to a person of

ordinary skill in the art to combine chunk having a payload comprising the plurality of data

packets teaching by Feldmeier with Bala. The motivation for doing so would have been to

provide the ability to process data without intermediate buffering for reordering or reassembly

improves protocol processing performance read on abstract. Therefore, it would have been

obvious to combine Feldmeier and Bala to obtain the invention as specified in the claim 88.

Regarding claim 94, Bala does not disclose each chunk is further formatted to include

forward error correction (FEC) code. However, Feldmeier discloses forward error correction

code (see Fig. 8, col. 8, lines 38-62). At the time of the invention, it would have been obvious to

a person of ordinary skill in the art to combine the FEC code teaching by Feldmeier with Bala.

The motivation for doing so would have been to provide for improving the performance of a

communication network by immediate packet processing, dividing PDU's among multiple

packets, and capability of processing misorder data read on column 2, lines 52-57. Therefore, it

would have been obvious to combine Feldmeier and Bala to obtain the invention as specified in

the claim 94.

Regarding claim 95, Bala does not disclose FEC code is located adjacent to and

following the frame symbol (see Fig. 8, col. 8, lines 38-62). At the time of the invention, it would

have been obvious to a person of ordinary skill in the art to combine FEC code is located

adjacent to and following the frame symbol teaching by Feldmeier with Bala. The motivation for

doing so would have been to provide for improving the performance of a communication

network by immediate packet processing, dividing PDU's among multiple packets, and

capability of processing misorder data read on column 2, lines 52-57. Therefore, it would have

been obvious to combine Feldmeier and Bala to obtain the invention as specified in the claim 95.

Regarding claim 96, Bala does not disclose each chunk is formatted to include a

preamble, containing information configured to allow alignment of router clock and data

recovery circuitry. However, Feldmeier discloses each chunk is formatted to include the

preamble, containing information configured to allow alignment of router clock and data

recovery circuitry (see Fig. 6, col. 6, lines 46-54). At the time of the invention, it would have

been obvious to a person of ordinary skill in the art to combine preamble containing information

for alignment clock and data recovery teaching by Feldmeier with Bala. The motivation for

doing so would have been to provide for improving the performance of a communication

network by immediate packet processing, dividing PDU's among multiple packets, and

capability of processing misorder data read on column 2, lines 52-57. Therefore, it would have

been obvious to combine Feldmeier and Bala to obtain the invention as specified in the claim 96.

Regarding claim 102, Bala does not disclose the chunk header includes identification of

chunk type. However, Feldmeier discloses the chunk header includes identification of chunk type

(see Fig. 5C, col. 4, lines 52-65). At the time of the invention, it would have been obvious to a

person of ordinary skill in the art to combine identification of chunk type teaching by Feldmeier

with Bala. The motivation for doing so would have been to provide for improving the

performance of a communication network by immediate packet processing, dividing PDU's

among multiple packets, and capability of processing misorder data read on column 2, lines 52-

57. Therefore, it would have been obvious to combine Feldmeier and Bala to obtain the

invention as specified in the claim 102.

Regarding claim 103, Bala disclose the optical switch fabric is partitioned into a

plurality of working sub-planes (see Fig. 5C, element 120, col. 11, lines 9-12, 21-22)

Regarding claim 104, Bala does not disclose chunk header includes identification of a

specific routing sub-plane through the switch fabric. However, Feldmeier discloses chunk header

includes identification of the specific routing sub-plane through the switch fabric (see Fig. 5, col.

4, lines 65-67, and col. 5, lines 1-5). At the time of the invention, it would have been obvious to a

person of ordinary skill in the art to combine identification of the specific routing sub-plane

through the switch fabric teaching by Feldmeier with Bala. The motivation for doing so would

have been to provide for improving the performance of a communication network by immediate

packet processing, dividing PDU's among multiple packets, and capability of processing

misorder data read on column 2, lines 52-57. Therefore, it would have been obvious to combine

Feldmeier and Bala to obtain the invention as specified in the claim 104.

Regarding claim 105, Bala does not disclose the chunk header includes a header parity.

However, Feldmeier discloses the chunk header including the header parity (see Fig. 5, col. 8,

lines 59-67). At the time of the invention, it would have been obvious to a person of ordinary

skill in the art to combine the header parity teaching by Feldmeier with Bala. The motivation for

doing so would have been to provide for improving the performance of a communication

network by immediate packet processing, dividing PDU's among multiple packets, and

capability of processing misorder data read on column 2, lines 52-57. Therefore, it would have

been obvious to combine Feldmeier and Bala to obtain the invention as specified in the claim

105.

Regarding claim 106, Bala does not disclose the chunk header includes identification of

an input of the optical switch fabric and an output of the optical switch fabric for the chunk.

However, Feldmeier discloses the chunk header includes identification of the input of the optical

switch fabric and the output of the optical switch fabric for the chunk (see Fig. 5, col. 5, lines 31-

47, wherein the ID can represent the source ID or destination ID). At the time of the invention, it

would have been obvious to a person of ordinary skill in the art to combine the ID of the input

and output of the optical switch fabric teaching by Feldmeier with Bala. The motivation for

doing so would have been to provide for improving the performance of a communication

network by immediate packet processing, dividing PDU's among multiple packets, and

capability of processing misorder data read on column 2, lines 52-57. Therefore, it would have

been obvious to combine Feldmeier and Bala to obtain the invention as specified in the claim 106.

Regarding claim 108, Bala does not disclose the chunk header includes a sequence number. However, Feldmeier discloses the chunk header including the sequence number (see Fig. 5, col. 5, lines 59-63). At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the sequence number teaching by Feldmeier with Bala. The motivation for doing so would have been to provide for improving the performance of a communication network by immediate packet processing, dividing PDU's among multiple packets, and capability of processing misorder data read on column 2, lines 52-57. Therefore, it would have been obvious to combine Feldmeier and Bala to obtain the invention as specified in the claim 108.

Regarding claim 109, Bala does not disclose the payload of at least one chunk further comprises at least one packet segment and an associated packet header. However, Feldmeier discloses at least one packet segment and the associated packet header (see Fig. 5C, col. 5, lines 14-20, 39-41). At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine at least one packet segment and the associated packet header teaching by Feldmeier with Bala. The motivation for doing so would have been to provide for improving the performance of a communication network by immediate packet processing, dividing PDU's among multiple packets, and capability of processing misorder data read on column 2, lines 52-57. Therefore, it would have been obvious to combine Feldmeier and Bala to obtain the invention as specified in the claim 109.

Regarding claim 111, Bala discloses the switch fabric comprises a plurality of optical switch planes (see Fig. 5C, col. 120, col. 11, lines 9-12, 21-22). Wherein the middle stage switches 120 (optical switch planes) formed by an optical switch fabric.

Allowable Subject Matter

4.   Claims 89-93, 97-100, 107, and 110 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

5.   Claims 63-87 and 112-125 are allowed.

Response to Arguments

6.   Applicant's arguments with respect to claims 94, 96, 101-106, 108, 109, and 111 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

7.   Any inquiry concerning this communication or earlier communications from the examiner should be directed to Phirin Sam whose telephone number is (571) 272-3082. The examiner can normally be reached on a compress schedule, from 8:00-5:30, first Wed off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chau T. Nguyen can be reached on (571) 272 - 3126. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Respectfully submitted,

Date: October 31, 2005

PHIRIN SAM
PRIMARY EXAMINER